

REMARKS

In the final Office Action dated January 9, 2008, as affirmed in the Decision on Appeal, the Examiner rejects claims 1, 5, 6, and 14 under 35 U.S.C. § 103(a) as unpatentable over IVERSON et al. (U.S. Patent No. 6,052,379) and what is well known in the art; rejects claims 2, 3, 7-11, 13, and 15-22 under 35 U.S.C. § 103(a) as being unpatentable over IVERSON et al. in view of HO (U.S. Patent No. 6,862,270); rejects claim 4 under 35 U.S.C. § 103(a) as being unpatentable over IVERSON et al. in view of Applicants' allegedly admitted prior art; and rejects claim 12 under 35 U.S.C. § 103(a) as being unpatentable over IVERSON et al. in view of HO and further in view of CHIRUVOLU (U.S. Patent No. 6,839,321). Applicants respectfully traverse these rejections.

By way of this amendment, Applicants cancel claims 21 and 22, without prejudice or disclaimer, and amend claims 1-20 to improve form. No new matter has been added by way of the present amendment. Claims 1-20 are pending.

Rejection under 35. U.S.C. § 103(a) based on IVERSON et al.

Claims 1, 5, 6, and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over IVERSON et al. and what is allegedly well known in the art. Applicants respectfully traverse this rejection.

Amended independent claim 1 is directed to a method for allocating bandwidth in a network appliance where the network appliance includes a plurality of guaranteed bandwidth buckets used to evaluate when to pass traffic through the network appliance. The method includes providing a shared bandwidth bucket associated with each of the plurality of the guaranteed bandwidth buckets; allocating bandwidth to the shared bandwidth bucket based on an underutilization of bandwidth in any one of the plurality of guaranteed bandwidth buckets;

determining whether bandwidth in one of the plurality of guaranteed bandwidth buckets is sufficient to allow traffic to pass immediately through the network appliance; transferring bandwidth from the shared bandwidth bucket to the one of the plurality of guaranteed bandwidth buckets when the bandwidth in the one of the plurality of guaranteed bandwidth buckets is not sufficient to allow traffic to pass immediately through the network appliance; determining whether bandwidth in another one of the plurality of guaranteed bandwidth buckets is sufficient to allow traffic to pass immediately through the network appliance; and transferring bandwidth from the shared bandwidth bucket to the other one of the plurality of guaranteed bandwidth buckets when the bandwidth in the other one of the plurality of guaranteed bandwidth buckets is not sufficient to allow traffic to pass immediately through the network appliance, where the one of the plurality of guaranteed bandwidth buckets is allocated a first amount of bandwidth and the other one of the plurality of guaranteed bandwidth buckets is allocated a different amount of bandwidth. IVERSON et al. and what is allegedly well known in the art do not disclose or suggest one or more of the above features of claim 1, as amended.

For example, IVERSON et al. and what is allegedly well known in the art do not disclose or suggest determining whether bandwidth in another one of the plurality of guaranteed bandwidth buckets is sufficient to allow traffic to pass immediately through the network appliance; and transferring bandwidth from the shared bandwidth bucket to the other one of the plurality of guaranteed bandwidth buckets when the bandwidth in the other one of the plurality of guaranteed bandwidth buckets is not sufficient to allow traffic to pass immediately through the network appliance, where the one of the plurality of guaranteed bandwidth buckets is allocated a first amount of bandwidth and the other one of the plurality of guaranteed bandwidth buckets is allocated a different amount of bandwidth, as recited in claim 1, as amended.

The Examiner admits that IVERSON et al. does not disclose “a plurality of guaranteed bandwidth buckets” (Final Office Action, p. 3). The Examiner relies on the Abstract, Fig. 10, and col. 17, line 56 – col. 18, line 19 of IVERSON et al. for allegedly disclosing “providing a shared bandwidth bucket associated with each of the plurality of the guaranteed bandwidth buckets” and alleges that “it would have been obvious to one having ordinary skill in the art at the time the invention was made to have more than one guaranteed bandwidth bucket since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art” (Final Office Action, p. 3). Applicants respectfully submit that neither IVERSON et al., nor what is allegedly well known in the art, whether taken alone or in any reasonable combination, disclose or suggest the above feature of claim 1, as amended.

At the outset, Applicants respectfully submit that since, as admitted by the Examiner, IVERSON et al. does not disclose or suggest a plurality of guaranteed bandwidth buckets, IVERSON et al. cannot disclose or suggest determining whether bandwidth in another one of the plurality of guaranteed bandwidth buckets is sufficient to allow traffic to pass immediately through the network appliance; and transferring bandwidth from the shared bandwidth bucket to the other one of the plurality of guaranteed bandwidth buckets when the bandwidth in the other one of the plurality of guaranteed bandwidth buckets is not sufficient to allow traffic to pass immediately through the network appliance, where the one of the plurality of guaranteed bandwidth buckets is allocated a first amount of bandwidth and the other one of the plurality of guaranteed bandwidth buckets is allocated a different amount of bandwidth, as recited in claim 1, as amended. Further, Applicants submit that merely having more than one guaranteed bandwidth bucket, as alleged by the Examiner with respect to the disclosure of IVERSON et al., cannot reasonably be construed to disclose or suggest that one of the plurality of guaranteed

bandwidth buckets is allocated a first amount of bandwidth and the other one of the plurality of guaranteed bandwidth buckets is allocated a different amount of bandwidth. Therefore, IVERSON et al. and what is allegedly well known in the art, whether taken alone or in any reasonable combination, do not disclose or suggest the above feature of claim 1, as amended.

Nevertheless, at the Abstract, IVERSON et al. discloses:

A priority scheme is based on an amount of preallocated bandwidth unused by channel unit ports. A first water level in a first bucket is associated with an amount of allotted bandwidth unused by the channel unit and a second water level in a second bucket is associated with an amount of unused allotted bandwidth exceeding an overflow level of the first bucket. A priority value is derived from the first water level when the first water level is above zero. The priority value is derived from the second water level when the first water level is below or equal to zero. In another aspect of the invention, the high priority value is determined by tracking a percentage utilization of allocated bandwidth for a predetermined number of time increments comprising a measurement time period.

This section of IVERSON et al. discloses a first allotted bandwidth bucket and a second overflow bucket. This section of IVERSON et al. further discloses that depending on whether a water level in the first bucket is above or below zero, a priority value is derived from the level of either the first bucket or the second bucket. This section of IVERSON et al. does not relate to allocating different amounts of bandwidth to different guaranteed bandwidth buckets. Thus, this section of IVERSON et al. does not disclose or suggest determining whether bandwidth in another one of the plurality of guaranteed bandwidth buckets is sufficient to allow traffic to pass immediately through the network appliance; and transferring bandwidth from the shared bandwidth bucket to the other one of the plurality of guaranteed bandwidth buckets when the bandwidth in the other one of the plurality of guaranteed bandwidth buckets is not sufficient to allow traffic to pass immediately through the network appliance, where the one of the plurality of guaranteed bandwidth buckets is allocated a first amount of bandwidth and the other one of the

plurality of guaranteed bandwidth buckets is allocated a different amount of bandwidth, as recited in claim 1, as amended.

At col. 17, line 56 – col. 18, line 19, which describes Fig. 10, IVERSON et al. discloses:

If the BpCsum is positive, the port was requesting bandwidth at a rate below the $CIR+B_c$ for at least the last measurement interval. If the BpCsum is zero, port bandwidth requests have been substantially equal to the $CIR+B_c$ for the port. If the water level in Csum is negative (below the midpoint), the rate that the port has been using bandwidth is above $CIR+B_c$. If the port has accumulated any excess bandwidth credit by transmitting below CIR for some amount of time, this bandwidth credit will be used if the water level in the first bucket goes below zero.

BpEsum is the water level value in the second bucket 404 and represents the current accumulated value of unused bandwidth in excess of $CIR+B_c$ (i.e. past overflows from the first bucket 402). The Esum bucket 404 represents a cache of excess bandwidth that the user 62 can save up to be used for longer periods of high transmission demand.

Every measurement interval the quantum of bits 400 are added to the first bucket 402. Any overflow of bandwidth above the limit of the first bucket 402 is added to the Esum bucket 404.

Both buckets are "leaky" in that the amount of traffic transmitted in the past measurement interval leaks out of the appropriate bucket based on the previous priority level. The current water level of each bucket is then the result of adding in the Committed Information Rate (CIR) bit quantum for the last measurement interval and subtracting the amount of outgoing traffic 409 actually transmitted in the last measurement interval, TIOut. The water level of bucket 402 determines a priority value in a high priority band 403. The water level of bucket 404 determines a priority value in a low priority band 405.

This section of IVERSON et al. discloses a leaky bucket priority scheme, wherein excess bandwidth credits for a first committed bandwidth bucket 402 are added to a second excess bandwidth bucket 404. This section of IVERSON et al. further discloses that excess bandwidth stored in bucket 404 is then used when the level of the first bucket 402 drops below zero (a midpoint in the bucket). This section of IVERSON et al. does not disclose that a first committed bandwidth bucket is allocated a first amount of bandwidth and a different bandwidth bucket is

allocated a different amount of bandwidth, as would be required based on the Examiner's interpretation of claim 1. Instead, this section of IVERSON et al. discloses only a single information rate ($CIR+B_c$) associated with both a first committed bandwidth bucket and a second excess bandwidth bucket. Therefore, this section of IVERSON et al. does not disclose or suggest determining whether bandwidth in another one of the plurality of guaranteed bandwidth buckets is sufficient to allow traffic to pass immediately through the network appliance; and transferring bandwidth from the shared bandwidth bucket to the other one of the plurality of guaranteed bandwidth buckets when the bandwidth in the other one of the plurality of guaranteed bandwidth buckets is not sufficient to allow traffic to pass immediately through the network appliance, where the one of the plurality of guaranteed bandwidth buckets is allocated a first amount of bandwidth and the other one of the plurality of guaranteed bandwidth buckets is allocated a different amount of bandwidth, as recited in claim 1, as amended.

For at least the foregoing reasons, Applicants submit that claim 1 is patentable over IVERSON et al. and what is allegedly well known in the art, whether taken alone or in any reasonable combination. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 1 under 35 U.S.C. § 103(a) based on IVERSON et al. and what is allegedly well known in the art.

Claims 5 and 6 depend from claim 1. Therefore, these claims are patentable over IVERSON et al. and what is allegedly well known in the art, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 5 and 6 under 35 U.S.C. § 103(a) based on IVERSON et al. and what is allegedly well known in the art.

Amended independent claim 14 recites features similar to (yet possibly of different scope than) features described above with respect to claim 1. Therefore, this claim is patentable over IVERSON et al. and what is allegedly well known in the art, whether taken alone or in any reasonable combination, for at least reasons similar to the reasons given above with respect to claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 14 under 35 U.S.C. § 103(a) based on IVERSON et al. and what is allegedly well known in the art.

Rejection under 35. U.S.C. § 103(a) based on IVERSON et al. and HO

Pending claims 2, 3, 7-11, and 15-20 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over IVERSON et al. and HO. Applicants respectfully traverse this rejection.

Claims 2, 3, and 7-11 depend from claim 1. Without acquiescing in the rejection, Applicants submit that these claims are patentable over IVERSON et al. for at least the reasons given above with respect to claim 1. Further, Applicants submit that the disclosure of HO does not remedy the deficiencies in the disclosure of IVERSON et al. identified above with respect to claim 1. Therefore, claims 2, 3, and 7-11 are patentable over IVERSON et al. and HO, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 2, 3, and 7-11 under 35 U.S.C. § 103(a) based on IVERSON et al. and HO.

Amended independent claims 15, 16, and 20 recite features similar to (yet possibly of different scope than) features described above with respect to claim 1. Without acquiescing in the rejection, Applicants submit that these claims are patentable over IVERSON et al. for at least reasons similar to the reasons given above with respect to claim 1. Further, Applicants submit

that the disclosure of HO does not remedy the deficiencies in the disclosure of IVERSON et al. identified above with respect to claim 1. Therefore, claims 15, 16, and 20 are patentable over IVERSON et al. and HO, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 15, 16, and 20 under 35 U.S.C. § 103(a) based on IVERSON et al. and HO.

Claims 17-19 depend from claim 16. Therefore, these claims are patentable over IVERSON et al. and HO, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 16. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 17-19 under 35 U.S.C. § 103(a) based on IVERSON et al. and HO.

Rejection under 35, U.S.C. §103(a) based on IVERSON et al. and allegedly admitted prior art

Claim 4 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over IVERSON et al. and allegedly admitted prior art. Applicants respectfully traverse this rejection.

Claim 4 depends from claim 1. Without acquiescing in the rejection, Applicants submit that this claim is patentable over IVERSON et al. for at least the reasons given above with respect to claim 1. Further, Applicants submit that the disclosure of the allegedly admitted prior art does not remedy the deficiencies in the disclosure of IVERSON et al. identified above with respect to claim 1. Therefore, claim 4 is patentable over IVERSON et al. and the allegedly admitted prior art, for at least the reasons given above with respect to claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 4 under 35 U.S.C. § 103(a) based on IVERSON et al. and the allegedly admitted prior art.

Rejection under 35. U.S.C. §103(a) based on IVERSON et al., HO, and CHIRUVOLU

Claim 12 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over IVERSON et al., HO, and CHIRUVOLU. Applicants respectfully traverse this rejection.

Claim 12 depends from claim 1. Without acquiescing in the rejection, Applicants submit that this claim is patentable over IVERSON et al. for at least the reasons given above with respect to claim 1. Further, Applicants submit that the disclosures of HO and CHIRUVOLU, whether taken alone or in any reasonable combination, do not remedy the deficiencies in the disclosure of IVERSON et al. identified above with respect to claim 1. Therefore, claim 12 is patentable over IVERSON et al., HO, and CHIRUVOLU, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 12 under 35 U.S.C. § 103(a) based on IVERSON et al., HO, and CHIRUVOLU.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

As Applicants' remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicants' silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such assertions (e.g., whether a reference constitutes prior art, reasons to modify a reference and/or to combine references, assertions as to dependent claims, Official Notice, etc.) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute such assertions/requirements in the future.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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